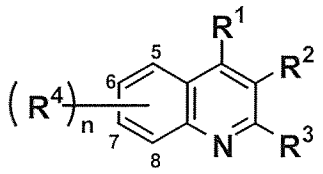
a.) Amendment to the Claims

1. (Currently Amended) ~~A phosphodiesterase 10A (PDE10A) inhibitor which comprises~~ A method for inhibiting a phosphodiesterase 10A (PDE10A) comprising the step of administering an effective amount of quinoline derivative represented by general formula (I)



(I)

[wherein n represents an integer of from 1 to 4, $R^1$ represents substituted or unsubstituted lower alkyl, $-C(=Y)R^9$ (wherein Y represents an oxygen atom or a sulfur atom, and $R^9$ represents a hydrogen atom, hydroxy, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, substituted or unsubstituted aryl, a substituted or unsubstituted heterocyclic group, amino, mono-lower alkylamino or di-lower alkylamino), hydroxy, halogen, cyano, amino, mono-lower alkylamino or di-lower alkyl amino, $R^2$ represents a hydrogen atom, amino, nitro, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, $-S(O)_mR^{12}$ (wherein $R^{12}$ represents substituted or unsubstituted lower alkyl or substituted or unsubstituted aryl, and m represents an integer of from 0 to 2), mono-lower alkylamino or di-lower alkylamino, $R^3$ represents a hydrogen atom, halogen, hydroxy, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group, or $R^2$ and $R^3$ form a substituted or unsubstituted condensed ring together with two carbon atoms on roots thereof, and $R^4$ represents a

hydrogen atom, halogen, cyano, amino, nitro, substituted or unsubstituted lower alkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted lower alkoxy, -$S(O)_{ma}R^{12a}$ (wherein $R^{12a}$ and ma have the same meanings as those of the above $R^{12}$ and m respectively), -$C(=Y^1)R^{9a}$ (wherein $Y^1$ and $R^{9a}$ have the same meanings as those of the above Y and $R^9$ respectively), mono-lower alkylamino or di-lower alkylamino, and when n is an integer of 2 or more, $R^4$s each may be the same or different],

or a pharmaceutically acceptable salt ~~thereof as an active ingredient~~.

2. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to claim 1, wherein $R^1$ is substituted or unsubstituted lower alkyl, -$C(=Y)R^9$ ~~(wherein Y and $R^9$ have the same meanings as those above-mentioned respectively)~~, cyano or amino, and $R^2$ is substituted or unsubstituted lower alkyl.

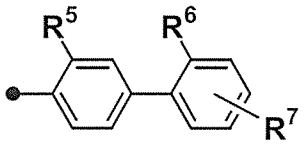
3. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to claim 1, wherein $R^1$ is methyl, hydroxymethyl, acetyl, carboxy, methoxycarbonyl, cyano or amino.

4. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to any one of claims 1 to 3, wherein $R^3$ is substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group.

5. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to any one of claims 1 to 3, wherein $R^3$ is substituted or unsubstituted biphenylyl or substituted or unsubstituted piperazinyl.

6. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to any one of claims 1 to 3, wherein $R^3$ is substituted or unsubstituted biphenyl-4-yl or substituted or unsubstituted piperazin-1-yl.

7. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to any one of claims 1 to 3, wherein $R^3$ is general formula (A)



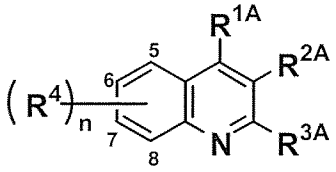

(A)

[wherein $R^5$, $R^6$ and $R^7$, ~~which may be the same or different, each represent~~ independently represent a hydrogen atom, halogen, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, aryl, substituted or unsubstituted lower alkanoyl or a substituted or unsubstituted heterocyclic group]

or piperazin-1-yl having substituted or unsubstituted lower alkyl or substituted or unsubstituted aryl as a substituent on the 4-position.

8. (Currently Amended) ~~The PDE10A inhibitor~~ The method according to any one of claims ~~1 to 7~~ 1 to 3, wherein n is 1, and $R^4$ is halogen.

9. (Currently Amended) A quinoline derivative represented by general formula (IA)




(IA)

[wherein ~~n and $R^4$ have the same meanings as those above-mentioned respectively,~~ $R^{1A}$ represents lower alkyl, hydroxy lower alkyl, -C(=Y)$R^{9A}$ (wherein Y ~~has the same meaning as that above-mentioned~~ represents an oxygen atom or a sulfur atom, and $R^{9A}$ represents a hydrogen atom, lower alkyl, lower alkoxy, amino, mono-lower alkylamino or di-lower alkylamino), cyano, amino, mono-lower alkylamino or di-lower alkylamino, $R^{2A}$ represents amino, nitro, ~~substituted or~~ unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, -$S(O)_mR^{12}$ (wherein $R^{12}$ ~~and m have the same meanings as those above-mentioned respectively~~ represents substituted or unsubstituted lower alky; or substituted or unsubstituted aryl, and m represents an integer of from 0 to 2), mono-lower alkylamino or di-lower alkylamino, and $R^{3A}$ represents a substituted or unsubstituted heterocyclic group or substituted or unsubstituted aryl, or $R^{2A}$ and $R^{3A}$ form cycloalkane condensed with a substituted or unsubstituted benzene ring together with two

carbon atoms on roots thereof, and $R^4$ represents a hydrogen atom, halogen, cyano, amino, nitro, unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, $-S(O)_{ma}R^{12a}$ (wherein $R^{12a}$ and ma have the same meanings as $R^{12}$ and m, respectively), $-C(=Y^1)R^{9a}$ (wherein $Y^1$ and $R^{9a}$ have the same meanings as Y and $R^9$, respectively), mono-lower alkylamino or di-lower alkylamino, and when n is an integer of 2 or more, $R^4$s each may be the same or different, provided that when $R^{1A}$ is hydroxymethyl or $-C(=O)R^{9B}$ (wherein $R^{9B}$ represents a hydrogen atom, ethyloxy, n-propylamino or diethylamino), $R^{3A}$ is not 4-cyclohexylphenyl, when $R^{1A}$ is hydroxymethyl or $-C(=O)R^{9C}$ (wherein $R^{9C}$ represents methoxy, amino, mono-lower alkylamino or di-lower alkylamino) and $R^{2A}$ is carboxyethyl or methoxycarbonylethyl, $R^{3A}$ is not 4-(2-fluorophehyl)phenyl nor biphenyl-4-yl, and when $R^{1A}$ is hydroxymethyl or $-C(=O)R^{9D}$ (wherein $R^{9D}$ represents amino or lower alkoxy) and $R^{2A}$ is methyl, $R^{3A}$ is not biphenyl-4-yl],

or a pharmaceutically acceptable salt thereof.

10. (Original) The quinoline derivative or the pharmaceutically acceptable salt thereof according to claim 9, wherein $R^{3A}$ is substituted or unsubstituted biphenylyl or substituted or unsubstituted piperazin-1-yl.

11. (Original) The quinoline derivative or the pharmaceutically acceptable salt thereof according to claim 9, wherein $R^{3A}$ is substituted or unsubstituted

biphenylyl or piperazin-1-yl having substituted or unsubstituted lower alkyl or substituted or unsubstituted aryl as a substituent on the 4-position.

12. (Original) The quinoline derivative or the pharmaceutically acceptable salt thereof according to claim 9, wherein $R^{3A}$ is piperazin-1-yl having substituted or unsubstituted aryl as a substituent on the 4-position.

13. (Currently Amended) The quinoline derivative or the pharmaceutically acceptable salt thereof according to any one of claims 9 to 12, wherein $R^{1A}$ is lower alkyl, hydroxy lower alkyl, $-C(=O)R^{9E}$ (wherein $R^{9E}$ represents lower alkyl or lower alkoxy) or cyano, and $R^{2A}$ is ~~substituted or~~ unsubstituted lower alkyl.

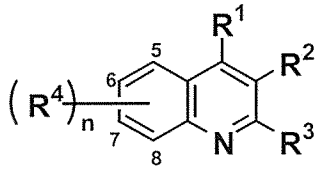
14. (Currently Amended) The quinoline derivative or the pharmaceutically acceptable salt thereof according to any one of claims 9 ~~to 13~~ to 12, wherein $R^{1A}$ is methyl, hydroxymethyl, acetyl, methoxycarbonyl or cyano.

15. (Currently Amended) The quinoline derivative or the pharmaceutically acceptable salt thereof according to claim ~~any one of claims 9 to~~ 14, wherein n is 1, and $R^4$ is halogen.

16. (Currently Amended) ~~A PDE10A inhibitor which comprises~~ A method for inhibiting PDE10A comprising the step of administering an effective amount of the quinoline derivative or the pharmaceutically acceptable salt thereof according to claim 14 ~~any one of claims 9 to 15 as an active ingredient~~.

Claims 17-27 (Cancelled).

28. (Currently Amended) A method for treating a disease caused by enhancing the activity of PDE10A, which comprises administering an effective amount of the quinoline derivative derivative represented by general formula (I)



(I)

or the pharmaceutically acceptable salt thereof ~~according to any one of claims 1 to 8~~ claim 1 to a patient in need thereof.

29. (Currently Amended) A method for treating a disease caused by enhancing the activity of PDE10A, which comprises administering an effective amount of

the quinoline derivative or the pharmaceutically acceptable salt thereof according to any one of claims 9 ~~to 15~~ to 12 to a patient in need thereof.

30. (Currently Amended) A method for treating dyskinesia, which comprises administering an effective amount of the quinoline derivative or the pharmaceutically acceptable salt thereof according to one any of claims 9 ~~to 15~~ to 12 to a patient in need thereof.

31. (Currently Amended) A method for treating a malignant tumor, which comprises administering an effective amount of the quinoline derivative or the pharmaceutically acceptable salt thereof according to any one of claims 9 to 15 to the patient in need thereof.

Claims 32-33 (Cancelled).

34. (New) The method according to any one of claim 4, wherein n is 1, and $R^4$ is halogen.

35. (New) The method according to any one of claim 5, wherein n is 1, and $R^4$ is halogen.

36. (New) The method according to any one of claim 6, wherein n is 1, and $R^4$ is halogen.

37. (New) The method according to any one of claim 7, wherein n is 1, and $R^4$ is halogen.

38. (New) The method according to claim 28, wherein $R^1$ is substituted or unsubstituted lower alkyl, $-C(=Y)R^9$, cyano or amino, and $R^2$ is substituted or unsubstituted lower alkyl.

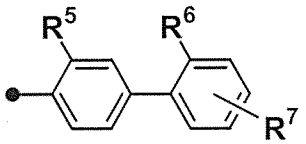
39. (New) The method according to claim 28, wherein $R^1$ is methyl, hydroxymethyl, acetyl, carboxy, methoxycarbonyl, cyano or amino.

40. (New) The method according to any one of claims 28, 38 or 39, wherein $R^3$ is substituted or unsubstituted aryl or a substituted or unsubstituted heterocyclic group.

41. (New) The method according to any one of claims 28, 38 or 39, wherein $R^3$ is substituted or unsubstituted biphenylyl or substituted or unsubstituted piperazinyl.

42. (New) The method according to any one of claims 28, 38 or 39, wherein $R^3$ is substituted or unsubstituted biphenyl-4-yl or substituted or unsubstituted piperazin-1-yl.

43. (New) The method according to any one of claims 28, 38 or 39, wherein $R^3$ is general formula (A)




(A)

[wherein $R^5$, $R^6$ and $R^7$, which may be the same or different, each represent a hydrogen atom, halogen, substituted or unsubstituted lower alkyl, substituted or unsubstituted lower alkoxy, aryl, substituted or unsubstituted lower alkanoyl or a substituted or unsubstituted heterocyclic group]

or piperazin-1-yl having substituted or unsubstituted lower alkyl or substituted or unsubstituted aryl as a substituent on the 4-position.

44. (New) The method according to any one of claims 28, 38 or 39, wherein n is 1, and $R^4$ is halogen.

45. (New) The method according to any one of claim 40, wherein n is 1, and $R^4$ is halogen.

46. (New) The method according to any one of claim 41, wherein n is 1, and $R^4$ is halogen.

47. (New) The method according to any one of claim 42, wherein n is 1, and $R^4$ is halogen.

48. (New) The method according to any one of claim 43, wherein n is 1, and $R^4$ is halogen.